

REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 1-11, and 13-25 are pending within this application. No claims have been allowed.

As an initial consideration, “[a] claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP 2131 (citing *Verdegaal Bros. v. Union Oil of California* (citation omitted)). Thus, anticipation under 35 U.S.C. 102 requires a clear disclosure within a single prior art reference of all limitations or elements of an applicant’s claimed invention.

In addition, for an Examiner to properly reject an applicant’s claims under 35 U.S.C. 103 over a single prior art reference or a combination of prior art references, a prima facie case of obviousness must be established with respect to the single prior art reference, or the combination of prior art references. The prima facie case of obviousness includes three criteria, as follows: (1) a suggestion or motivation to modify or combine the reference or references; (2) a reasonable expectation of success that the reference or references when modified or combined will provide the applicant’s claimed invention; and (3) a showing that the prior art reference or references when combined teach or suggest all of the applicant’s claim limitations. MPEP 2142, 2143.

Claims 1-11, 13-15 and 18-25 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Houston et al. (U.S. Patent Application Publication No. 2002/0086463; hereinafter “Houston”) in view of Sadana et al. (U.S. Patent No. 5,930,643; hereinafter “Sadana”).

Applicant observes that the Examiner acknowledges that Houston does not teach the thickness of a buried oxide layer, nor particular ion implantation parameters used when forming

the buried oxide layer. Nonetheless, the Examiner asserts that insofar as suggestive thicknesses for Houston's porous layer are in the nanometer range, Houston implicitly teaches a similar thickness for the buried oxide layer.

Whether or not Houston teaches a similar thickness to applicant's buried oxide layer, applicant has previously amended claim 1, claim 23 and claim 24 to provide that applicant's ion implantation dose is from about 1E165 to about 5E16 oxygen ions per square centimeter. In comparison, Houston at paragraph 0020 teaches an oxygen ion implantation dose from about 1E17 to 1E18 oxygen ions per square centimeter and Sadana at claim 11 teaches oxygen implantation dosages from about 2E17 to about 5E17 oxygen ions per square centimeter, the former of which the Examiner characterizes as "slightly higher" than applicant's claimed dosages. Since Houston does not explicitly teach applicant's claimed dosages, and applicant further asserts that the claimed and taught dosages are more than "slightly different," applicant asserts that claim 1, claim 23 and claim 24 may not properly be rejected under 35 U.S.C. 103(a) as being unpatentable over Houston in view of Sadana predicated upon only "slightly dissimilar" ion implantation dosages.

In light of the foregoing response, applicant respectfully requests that the Examiner's rejection of claims 1-11, 13-15 and 18-25 under 35 U.S.C. § 103(a) as allegedly unpatentable over Houston in view of Sadana, be withdrawn.

Claims 1-11 and 13-25 stand rejected under 35 U.S.C. 102(e) as allegedly anticipated by Bendernagel et al. (U.S. Patent No. 6,800,518; hereinafter "Bendernagel").

Claims 1-7 and 13-22 stand rejected under 35 U.S.C. 102(b) as allegedly anticipated by Sadana et al. (U.S. Patent No. 6,930,643; hereinafter "Sadana").

Claim 1-7 and 13-22 alternatively stand rejected under 35 U.S.C. 102(e) as allegedly

anticipated by Norcott et al. (U.S. Patent No. 6,486,037; hereinafter “Norcott”) which is the child of Sadana, and contains essentially the same teachings.

With respect to each of Houston, Bendernagle, Sadana and Norcott, applicant has amended claim 1, claim 23 and claim 24 to incorporate therein a two-step oxidizing and annealing process for forming applicant’s semiconductor-on-insulator structure. The two-step oxidizing and annealing process uses an oxidizing environment followed by a hydrogen containing ambient. Support for this particular limitation is found with applicant’s specification at paragraphs 0019 and 0043.

In comparison, Houston, at paragraph 0022, teaches annealing of a related porous silicon-on-insulator structure within various types of environments, but prior to oxygen ion implantation.

In further comparison, Sadana, at col. 5, lines 15-62, teaches a two-step oxidation and annealing process that does not in particular appear to teach component materials within the two-step oxidation and annealing process step.

In still further comparison, Bendernagle, at col. 9, lines 25-35, teaches a particular annealing process step that uses oxygen, nitrogen or an inert gas.

In final comparison, Norcott, at col. 7, lines 1-25, teaches an oxidation process step followed by an inert annealing process step,

Thus, since each and every limitation within applicant’s invention as taught within claim 1, claim 23 and claim 24 is not taught within any one particular reference, or any particular combination of references, that is limited to Houston, Sadana, Bendernagle and Norcott, in particular with respect to a two-step oxidation and annealing process that uses within the annealing process step a hydrogen containing ambient, applicant asserts that claims 1, 23 and 24,

and the remaining claims dependent thereupon within this application, may not properly be rejected under 35 U.S.C 102 or 103 as being anticipated by or, unpatentable over, individual references, or combinations thereof, limited to Houston, Sadana, Bendernagle and Norcott.

In light of the foregoing response, applicant respectfully requests that the Examiner's foregoing enumerated claims rejections, be withdrawn.

In light of the foregoing remarks, applicant respectfully requests reconsideration of, and early allowance of, the claims pending within this application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Leslie S. Szivos', with a long horizontal flourish extending to the right.

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